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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/306,813	05/07/1999	YOSHINORI KUNO	P99.0372	3991

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EXAMINER
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MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/306,813

Applicant(s)

KUNO ET AL.

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 6 is/are rejected.
- 7) ☒ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 122304.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2 November 2004 has been entered.

### *Response to Arguments*

2. Applicant's arguments filed 2 November 2004 have been fully considered but they are not persuasive.

3. The Applicant argues, "in accordance with the present invention, at least one switch mechanism is provided for selectively applying one of an output from the pulse generator, a fixed voltage level, or a floating output." Furthermore, Applicant believes there is no teaching or suggestion in Endo wherein one of the three mentioned signals is selectively applied.

4. The Examiner completely disagrees with Applicant's position. Turning to page 8 of the specification, the Applicant states, "Fig. 2A shows a switch circuit for selecting a  $\Phi_{in}$  or a predetermined potential  $V_C$ , and Fig. 2B shows a switch circuit for selecting a  $\Phi_{in}$  or a floating level." At no point in the specification or the drawings does the Applicant present at least one switch mechanism is provided for selectively applying one of an output from the pulse generator, a fixed voltage level, or a floating output. Thus, Applicant's arguments are erroneous.

***Claim Objections***

5. **Claims 2 and 5** are objected to because of the following informalities: lack of clarity and precision.

For **Claim 2**, the claim language, at least, requires, “in a second mode, selectively replacing all of the drive pulse signals” and “another drive pulse signal;” however, the Applicant has not previously introduced a plurality of drive pulse signals or at least a drive pulse signal. The Applicant introduces “a first pulse signal,” “a second pulse signal,” “a third pulse signal,” and “a fourth pulse signal;” however, the claim language does not classify these pulse signals as a plurality of drive pulse signals. For these reasons, Claim 2 lacks clarity and precision. For the purposes of Examination, the Examiner will interpret “all of the drive pulse signals” and “another drive pulse signal,” consistent with the drawings such as: “one of the first, second, third, or fourth pulse signals” and “another one of the first, second, third, or fourth pulse signals.” **Claim 5** presents a similar issue as the one stated above, by stating in claim language, “the driving pulses,” after only introducing a first, second, third, and fourth.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claims 1 and 6** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

For **Claim 1**, the Applicant at least requires, “a switch circuit for selectively connecting to a pulse generator output, a fixed voltage potential and a floating level for replacing the output of said timing pulse generator with either a predetermined fixed potential of a floating level.”

The Examiner interprets this limitation such that it requires that a switch circuit select between a pulse generator output, a fixed voltage potential, and a floating level. This subject matter constitutes new matter because the specification states (page 8 and figures 2A and 2B), “Fig. 2A shows a switch circuit for selecting a  $\Phi_{in}$  or a predetermined potential  $V_C$ , and Fig. 2B shows a switch circuit for selecting a  $\Phi_{in}$  or a floating level.”

The switch circuits, as shown in figure 1, SW1 or SW2 may be comprised of either the switch circuit of figure 2A or the switch circuit of figure 2B, NOT a switch circuit that is some sort of a combination of the switch circuits of figure 2A and 2B.

**Claim 6** recites similar claim language to the above-cited claim language of Claim 1. For the same reasons stated above, Claim 6 presents a new matter issue.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. **Claims 1 – 6** are rejected under 35 U.S.C. 102(e) as being anticipated by Endo et al.

10. For **Claim 1** (please see rejection above), Endo et al. disclose, as shown in figure 2, 5, and 7, a solid state image pickup device (10) being provided with a photoelectric converter portion (PD) having a plurality of pixels disposed in a row, a charge transfer portion (VT) for transferring the charges generated in said photoelectric converter portion (PD) and a charge/voltage converter portion (OA) for converting the charges transferred by said charge transfer portion into voltages comprising:

a timing pulse generator portion (74/152) for generating at least more than one pulse signal type from among four pulse signals which are; a first pulse signal for driving said charge transfer portion (V1 – V4), a second pulse signal for reading out the charges generated in said photoelectric converter portion (V1 – V4), a third pulse signal for sweeping out the charges generated in said photoelectric converter portion (sg), and a fourth pulse signal for discharging the charges transferred to said charge/voltage converter portion (bg),

a switch circuit (including switching circuits 160, 162, 164, and 166) for selectively connecting to a pulse generator output (P8, P7, P6, and P5), a fixed voltage potential ( $V_C$  and  $V_D$ ) and a floating level (Pe and Pf) for replacing the output of said timing pulse generator with either a predetermined fixed potential or a floating level, and

wherein the switch circuit (including switching circuits 160, 162, 164, and 166) is connected to a terminal to which another pulse signal (any one of V1 – V4) is inputted, the pulse signal being replaced.

The switch circuit of figure 5 is comprised of four individual switching circuits (160, 162, 164, and 166) wherein each of the switching circuits is supplied with a single output from the

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timing pulse generator (152). Switching circuits (166 and 164) selectively output the timing pulse generator signals P8 or P7, respectively, or the predetermined fixed potentials Vd and Vc, respectively. Switching circuits (162 and 160) selectively output the timing pulse generator signals P6 or P5, respectively, or floating levels Pf and Pe, respectively.

11. For **Claim 2** (please see objection above), Endo et al. disclose, as shown in figure 2, 5, and 7, a method for driving the horizontal read-out of a solid state image pickup device (10) provided with a photoelectric converter portion (PD) having a plurality of pixels in a row, a charge transfer portion (VT) for transferring the charges generated in said photoelectric converter portion (PD) and a charge/voltage converter portion (OA) for converting the charges transferred by said charge transfer portion into voltages, wherein

in a first mode (corresponding to figure 3), a first pulse signal for driving said charge transfer portion (V1 – V4), a second pulse signal for reading out the charges generated in said photoelectric converter portion (V1 – V4), a third pulse signal for sweeping out the charges generated in said photoelectric converter portion (sg), and a fourth pulse signal for discharging the charges transferred to said charge/voltage converter portion (bg) are selectively supplied to the to said solid state imaging device (The peaks and valleys of the above signals, as shown in figure 3, show that the above signals are selectively supplied to the solid state image pickup device.),

in a second mode (corresponding to figure 5), selectively replacing one of the first, second, third, or fourth pulse signals (V1 – V4) with either a predetermined fixed potential (Vc or Vd) or a floating level (Pe or Pf) and wherein another one of the first, second, third, or fourth pulse signals driving pulse is applied (V1 – V4), the driving pulse being replaced.

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12. For **Claim 3** (please see objection above), Endo et al. disclose, as shown in figure 2, 5, and 7, a method for driving the horizontal read-out of a solid state image pickup device (10) provided with a photoelectric converter portion (PD) having a plurality of pixels in a row, a charge transfer portion (VT) for transferring the charges generated in said photoelectric converter portion (PD) and a charge/voltage converter portion (OA) for converting the charges transferred by said charge transfer portion into voltages, wherein

a switch circuit (including switching circuits 160, 162, 164, and 166) selects between two modes, comprising:

a first mode (corresponding to figure 5), in which the switch circuit passes drive pulses ( $P8 - P5 \rightarrow V1 - V4$ ) generated by a pulse generator (152/74) to the charge transfer portions (VT), or

a second mode (also corresponding to figure 5) in which the switch circuit replaces all of the drive pulses ( $P8 - P5$ ) with either a predetermined fixed potential ( $Vc$  and  $Vd$ ) or a floating level ( $Pe$  and  $Pf$ ),

wherein another drive pulse is applied, the driving pulse being replaced (All the driving pulses may be replaced; see figure 5).

13. As for **Claim 4**, Endo et al. disclose, as shown in figure 5, wherein all the driving pulse signals are replaced.

14. For **Claim 5** (please see objection above), Endo et al. disclose, Endo et al. disclose, as shown in figure 2, 5, and 7, a solid state image pickup device (10) being provided with a photoelectric converter portion (PD) having a plurality of pixels disposed in a row, a charge transfer portion (VT) for transferring the charges generated in said photoelectric converter



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portion (PD) and a charge/voltage converter portion (OA) for converting the charges transferred by said charge transfer portion into voltages comprising:

a timing pulse generator portion (74/152) for generating at least more than one pulse signal type from among four pulse signals which are; a first pulse signal for driving said charge transfer portion (V1 – V4), a second pulse signal for reading out the charges generated in said photoelectric converter portion (V1 – V4), a third pulse signal for sweeping out the charges generated in said photoelectric converter portion (sg), and a fourth pulse signal for discharging the charges transferred to said charge/voltage converter portion (bg),

a switch circuit (including switching circuits 160, 162, 164, and 166) for selectively replacing one of the first, second, third, or fourth pulse signals (V1 – V4) with either a predetermined fixed potential (Vc or Vd) or a floating level (Pe or Pf).

wherein at least one row of said transfer elements is halted, one of the first, second, third, or fourth pulse signals (V1 – V4) being replaced (figures 2 and 3 clearly shows that if V1 – V4 are not applied, i.e. while they are being placed, the transfer would have to be halted.)

15. For **Claim 6** (please see rejection above), Endo et al. disclose, as shown in figures 2, 5, 6, and 7, a solid-state image pick-up device comprising:

a timing pulse generator (152/74);

a signal transfer device (10) and at least one switch circuit (including switching circuits 160, 162, 164, and 166) connected between the timing pulse generator (152/74) and the signal transfer device (10) wherein the switch circuit selectively connects one of an output (V1 – V4) from the timing pulse generator, a fixed voltage potential (V<sub>C</sub> and V<sub>D</sub>) and a floating level (Pe and Pf) to the signal transfer device.

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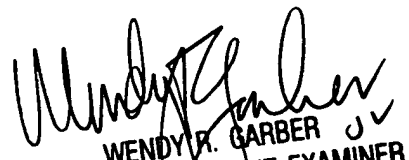
16. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM

January 7, 2005

  
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